

WHAT IS CLAIMED IS:

1. A vehicle front-view monitoring system for taking fail-safe measures comprising:

a camera device for taking an image of a view in front;
a calculator for calculating luminance data on the image;

and

a determination section for determining whether there is a fail occurring on the monitoring system based on the luminance data, the fail-safe measures being taken if the fail is occurring.

2. The vehicle front-view monitoring system according to claim 1, wherein the luminance data indicate luminance-distribution characteristic values indicating a horizontal luminance-distribution on the image.

3. The vehicle front-view monitoring system according to claim 2, wherein the determination section determines the fail based on a parameter obtained by the calculator and normalizes the luminance-distribution characteristic values by a shutter speed for the camera device.

4. The vehicle front-view monitoring system according to claim 2, wherein the luminance-distribution characteristic values include the maximum value of addition of luminance on the image.

5. The vehicle front-view monitoring system according to claim 2, wherein the luminance-distribution characteristic value include a luminance-addition variance on the image.

6. The vehicle front-view monitoring system according to claim 1, wherein the luminance data include the number of data related to luminance edges in a predetermined monitoring area on the image.

7. The vehicle front-view monitoring system according to claim 6, wherein the number of data is the number of luminance edges.

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8. The vehicle front-view monitoring system according to claim 6, wherein the number of data is the number of distance data obtain by a pair of cameras of the camera device.

9. The vehicle front-view monitoring system according to claim 6, wherein the monitoring area is set on the upper section of the image where a vehicle running ahead is displayed.

10. The vehicle front-view monitoring system according to claim 1, wherein the calculator calculates a luminance center as the luminance data, the luminance center corresponding to a horizontal position on the image at which luminance are converged, and the determination section determines the fail by evaluating the horizontal luminance distribution on the image based on the luminance center.

11. The vehicle front-view monitoring system according to claim 10, wherein the calculator calculates luminance moment indicating the horizontal luminance distribution based on the luminance center and the determination section determines the fail based on the luminance moment.

12. The vehicle front-view monitoring system according to claim 3, wherein the calculator further calculates the number of data as another parameter related to luminance edges in a predetermined monitoring area on the image, the determination section determining the fail based on the parameters.

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